PUB-NO: DE003901891A1

DOCUMENT-IDENTIFIER: **DE 3901891 A1**

TITLE: Device for measuring and/or monitoring the strength of an electrostatic field

PUBN-DATE: July 26, 1990

INVENTOR-INFORMATION:

NAME	COUNTRY
GIESINGER, HANS	CH

ASSIGNEE-INFORMATION:

NAME	COUNTRY
WAGNER INT	CH

APPL-NO: DE03901891

APPL-DATE: January 23, 1989

PRIORITY-DATA: DE03901891A (January 23, 1989)

INT-CL (IPC): B05D001/04, B05D001/14 , G01R029/12

EUR-CL (EPC): G01R029/12 ; B05B005/10

US-CL-CURRENT: 118/665

ABSTRACT:

A device is obtained for measuring and/or monitoring the strength of the electrostatic field between the high-voltage spray electrode of a coating device and the earthed work-piece to be coated, which consists of a parallel circuit comprising a glow-discharge lamp and a capacitor, which circuit is connected to the voltage of the spray electrode or to a voltage proportional thereto, an optical/electrical signal converter, an optical fibre (conductor) which conveys the optical signals from the glow-discharge lamp to the optical input of the signal converter, and an indicator device and/or switching element which is connected to the electrical output of the signal converter.

DERWENT-ACC-NO: 1990-232339

DERWENT-WEEK: 199031

TITLE: Electrostatic field strength monitoring for spray coating appts. - uses optical fibre coupling between indicator light bulb and opto-electrical signal converter

INVENTOR: GIESINGER, H

PATENT-ASSIGNEE: WAGNER INT AG[WAGNN]

PRIORITY-DATA: 1989DE-3901891 (January 23, 1989)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 3901891 A	July 26, 1990	N/A	000	N/A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
DE 3901891A	N/A	1989DE-3901891	January 23, 1989

INT-CL (IPC): B05D001/04, G01R029/12

ABSTRACTED-PUB-NO: DE 3901891A

BASIC-ABSTRACT:

The electrostatic field strength monitor detects the electrostatic field
between a HV spray electrode (14) (12) and the earthed workpiece to be coated.
The voltage at the spray electrode (12) or a proportional voltage is applied to
a parallel circuit (13) comprising a capacitor (13a) and a light bulb (13b)
with the optical signal provided by the latter fed via an optical fibre
coupling (14) to an optoelectrical converter (15).

This provides an electrical signal (15a) for a display and/or a switch element
and/or a regulator. Pref. the parallel circuit (13) lies between a sensor
electrode (16), spaced from the spray electrode (12) and earth.

ADVANTAGE - Eliminates error due to soiling by coating material.

CHOSEN-DRAWING: Dwg.1/2

DERWENT-CLASS: P42 S01 S02 X25

EPI-CODES: S01-D09; S01-H02; S02-K03B; X25-K01;

DERWENT-ACC-NO: 1994-224906

DERWENT-WEEK: 199427

TITLE: Water-based multi-component spray painting system - has alternating segments functioning in series to additively provide combined resistance which electrically blocks HV potential generated at electrostatic spray gun

INVENTOR: FEITEL, A

PATENT-ASSIGNEE: FEITEL A[FEITI] , GRACO INC[GRACN]

PRIORITY-DATA: 1993US-0098801 (July 28, 1993)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5328093 A	July 12, 1994	N/A	014	B05B 005/16
CA 2113861 A	January 29, 1995	N/A	000	B05D 001/04
DE 4405662 A1	February 2, 1995	N/A	021	B05B 005/16
FR 2708215 A1	February 3, 1995	N/A	000	B05B 005/16
GB 2280390 A	February 1, 1995	N/A	033	B05B 005/16

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
US 5328093A	N/A	1993US-0098801
	July 28, 1993	
CA 2113861A	N/A	1994CA-2113861
	January 20, 1994	
DE 4405662A1	N/A	1994DE-4405662
	February 22, 1994	
FR 2708215A1	N/A	1994FR-0002038
	February 23, 1994	
GB 2280390A	N/A	1994GB-0002676
	February 10, 1994	

INT-CL (IPC): B05B005/08, B05B005/10 , B05B005/16 , B05D001/04

ABSTRACTED-PUB-NO: US 5328093A

BASIC-ABSTRACT:

The system includes an electrically isolated electrically less-conductive component fluid-flow course and an electrically-grounded electrically more-conductive component fluid-flow course. The electrically more-conductive component fluid-flow course may be additionally electrically isolated at the preference of an operator.

A mixer is positioned proximal to an electrostatic spray gun, with a conduit holding alternating segments of electrically more-conductive component and electrically less-conductive component. The

alternating segments function in
series to additively provide a combined resistance
which electrically blocks
the high-voltage potential generated at the
electrostatic spray gun. This, in
turn, effectively isolates the electrically more-
conductive component
fluid-flow course and electrically less-conductive
fluid-flow course from the
high-voltage potentials.

ADVANTAGE - Improves the safety of an electrostatic
spray gun used with
water-based paints, while simultaneously permitting
the use of a standard
colour change system.

CHOSEN-DRAWING: Dwg.1/3

DERWENT-CLASS: P42 X25

EPI-CODES: X25-K01;

DERWENT-ACC-NO: 1995-294439

DERWENT-WEEK: 199750

TITLE: Powder mass flow measuring device - measures speed using two electrodes to detect charge variations, and measures mass using microwave resonator

INVENTOR: ADAMS, H; SEITZ, K

PATENT-ASSIGNEE: WAGNER INT AG[WAGNN]

PRIORITY-DATA: 1994DE-4406046 (February 24, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 669522 A2	August 30, 1995	G	008	G01F 001/74
DE 4406046 C2	November 20, 1997	N/A	007	G01F 001/74
DE 4406046 A1	August 31, 1995	N/A	007	G01F 001/74

DESIGNATED-STATES: CH DE DK ES FR GB IT LI NL

CITED-DOCUMENTS: No-SR.Pub

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-

NO	APPL-DATE
EP 669522A2	N/A
1995EP-0101238	January 30, 1995
DE 4406046C2	N/A
1994DE-4406046	February 24, 1994
DE 4406046A1	N/A
1994DE-4406046	February 24, 1994

INT-CL (IPC): B05D001/06, G01F001/64 , G01F001/708 , G01F001/74 , G01F001/86 , G01P005/08

ABSTRACTED-PUB-NO: EP 669522A

BASIC-ABSTRACT:

A speed measurement arrangement measures the speed of the gas-powder mixture in the supply line. A mass measurement arrangement measures the mass per unit vol. in a section of the supply line. A computer derives the powder mass flow from the measured speed, the measured mass per unit vol. and the dimensions of the supply line.

The speed measurement arrangement has two electrodes arranged at a distance apart along the supply line which detect charge variations on the line caused by the powder-gas mixture, from which the speed is derived. The mass measurement arrangement contains a microwave resonator (36) which detects a change in dielectric constant and/or microwave absorption in a resonant vol. of

the supply line (10) as a change in the microwave amplitude or resonant
frequency, from which the quantity of powder in the resonant vol. is derived.

USE/ADVANTAGE - E.g. for electrostatic powder coating systems. For measuring
mass flow of powder in gas-powder mixture in supply line. Very accurate,
reliable and direct measurement of powder delivery rates is achieved.

CHOSEN-DRAWING: Dwg.3/5

DERWENT-CLASS: P42 S02

EPI-CODES: S02-C01; S02-C01A1; S02-C01B4; S02-C01F;

DERWENT-ACC-NO: 1999-155622

DERWENT-WEEK: 200377

TITLE: Method for controlling the extraction equipment of electrostatic powder coating plant and an electrostatic powder coating plant

INVENTOR: ADAMS, H; HASLER, M ; SEITZ, K

PATENT-ASSIGNEE: WAGNER INT AG[WAGNN]

PRIORITY-DATA: 1997DE-1038097 (September 1, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 59809700 G	October 30, 2003	N/A	000	B05B 015/12
EP 899022 A1	March 3, 1999	G	010	B05B 015/12
DE 19738097 A1	March 4, 1999	N/A	000	B05D 001/02
JP 11128783 A	May 18, 1999	N/A	007	B05B 005/025
DE 19738097 C2	January 27, 2000	N/A	000	B05D 001/02
US 6071348 A	June 6, 2000	N/A	000	B05C 011/10
EP 899022 B1	September 24, 2003	G	000	B05B 015/12

DESIGNATED-STATES: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI CH DE FR GB IT LI

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
DE 59809700G	N/A	1998DE-0509700
	July 21, 1998	
DE 59809700G	N/A	1998EP-0113601
	July 21, 1998	
DE 59809700G	Based on	EP 899022
	N/A	
EP 899022A1	N/A	1998EP-0113601
	July 21, 1998	
DE 19738097A1	N/A	1997DE-1038097
	September 1, 1997	
JP 11128783A	N/A	1998JP-0244956
	August 31, 1998	
DE 19738097C2	N/A	1997DE-1038097
	September 1, 1997	
US 6071348A	N/A	1998US-0144858
	September 1, 1998	
EP 899022B1	N/A	1998EP-0113601
	July 21, 1998	

INT-CL (IPC): B05B005/025, B05B012/00 , B05B015/12 , B05C011/10 , B05D001/02 , B05D001/06 , G01F001/74 , G01P005/08

ABSTRACTED-PUB-NO: EP 899022A

BASIC-ABSTRACT:

NOVELTY - The method involves measuring the earth leakage current in the powder discharged from the spray devices (66). The current level is used as a measure for controlling the extraction equipment. Several units may be coupled together for control and measurement over a bus network.

USE - For extracting excess powder while coating irregular metallic work pieces.

ADVANTAGE - Controls the extraction equipment so that it operates with optimum efficiency.

ABSTRACTED-PUB-NO: US 6071348A

EQUIVALENT-ABSTRACTS:

NOVELTY - The method involves measuring the earth leakage current in the powder discharged from the spray devices (66). The current level is used as a measure for controlling the extraction equipment. Several units may be coupled together for control and measurement over a bus network.

USE - For extracting excess powder while coating irregular metallic work pieces.

ADVANTAGE - Controls the extraction equipment so that it operates with optimum efficiency.

CHOSEN-DRAWING: Dwg.0/4

DERWENT-CLASS: P42 W01 W05 X25

EPI-CODES: W01-A06B1; W01-A06B5A; W05-D07B; X25-H09; X25-K05;

PUB-NO: EP001232799A2

DOCUMENT-IDENTIFIER: **EP 1232799 A2**

TITLE: Spraying device with at least one separating area

PUBN-DATE: August 21, 2002

INVENTOR-INFORMATION:

NAME	COUNTRY
BALLANDIES, REGINE	DE
POPPE, SIEGFRIED	DE

ASSIGNEE-INFORMATION:

NAME	COUNTRY
DUERR SYSTEMS GMBH	DE

APPL-NO: EP02002709

APPL-DATE: February 6, 2002

PRIORITY-DATA: DE10108010A (February 20, 2001)

INT-CL (IPC): B05B013/02

EUR-CL (EPC): B05B005/053 ; B05B012/00

ABSTRACT:

CHG DATE=20030114 STATUS=O> The spray device has at least one separation
point (T1,T2,T3) for removal of a part (1,2,3) of the spray device
incorporating control or signaling devices (MV,HNS) coupled to incorporated
electrical lines (5,5'), with an electrical coupling device (IK) for the latter
provided at the separation point. The electrical coupling device uses
inductive coils embedded in the cooperating parts of the spray device and
aligned with one another when the parts of the spray device are assembled. An
Independent claim for a function testing device for a spray device is also
included. aim for a function testing

DERWENT-ACC-NO: 2002-592834

DERWENT-WEEK: 200264

TITLE: Spray device for series coating of workpieces has electrical coupling devices provided by cooperating inductive coils at separation points between cooperating parts of spray device

INVENTOR: BALLANDIES, R; POPPE, S

PATENT-ASSIGNEE: DUERR SYSTEMS GMBH[DUERN]

PRIORITY-DATA: 2001DE-1008010 (February 20, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 10108010 A1	August 29, 2002	N/A	000	B05B 015/06
EP 1232799 A2	August 21, 2002	G	009	B05B 013/02

DESIGNATED-STATES: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE

DE 10108010A1 N/A
2001DE-1008010 February 20, 2001
EP 1232799A2 N/A
2002EP-0002709 February 6, 2002

INT-CL (IPC): B05B013/02, B05B015/06

ABSTRACTED-PUB-NO: EP 1232799A

BASIC-ABSTRACT:

NOVELTY - The spray device has at least one separation point (T1,T2,T3) for removal of a part (1,2,3) of the spray device incorporating control or signaling devices (MV,HNS) coupled to incorporated electrical lines (5,5'), with an electrical coupling device (IK) for the latter provided at the separation point. The electrical coupling device uses inductive coils embedded in the cooperating parts of the spray device and aligned with one another when the parts of the spray device are assembled.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM for a function testing device for a spray device is also included.

USE - The spray device is used for series spraying of workpieces, e.g. for spray painting of automobile body components.

ADVANTAGE - The electrical coupling devices are protected from soiling and moisture.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic representation of a spray coating device.(Drawing includes non-English language text).

Spray device parts 1,2,3

Electrical lines 5,5'

Electrical coupling devices IK

Control or signaling devices MV,HNS

Separation points T1,T2,T3

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: P42 X25

EPI-CODES: X25-K09;

PUB-NO: EP001319439A1

DOCUMENT-IDENTIFIER: **EP 1319439 A1**

TITLE: Sensor arrangement for a part of a coating installation, said part being subjected to a high voltage

PUBN-DATE: June 18, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
DUERR, SYSTEMS GMBH	DE
BAUMANN, MICHAEL	DE
POPPE, SIEGFRIED	DE
YAMABE, HIDETOSHI	JP

ASSIGNEE-INFORMATION:

NAME	COUNTRY
DUERR SYSTEMS GMBH	DE

APPL-NO: EP02027402

APPL-DATE: December 9, 2002

PRIORITY-DATA: DE10161550A (December 14, 2001)

INT-CL (IPC): B05B005/16, B05B012/14

EUR-CL (EPC): B05B005/16 ; B05B012/14

DERWENT-ACC-NO: 2003-610071

DERWENT-WEEK: 200428

TITLE: Detection of the position of components being used in a coating plant, whereby use of a magneto-optical sensing system ensures that electronics are positioned well away from high electric fields associated with coating

INVENTOR: BAUMANN, M; POPPE, S ; YAMABE, H

PATENT-ASSIGNEE: DUERR SYSTEMS GMBH[DUERN] , BAUMANN M[BAUMI], POPPE S[POPPI], YAMABE H[YAMAI]

PRIORITY-DATA: 2001DE-1061550 (December 14, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20040075848	A1	April 22, 2004	N/A	000
G01B 011/14				
EP 1319439 A1	June 18, 2003	G	011	
B05B 005/16				
DE 10161550 A1	June 18, 2003	N/A	000	
B05B 005/16				

DESIGNATED-STATES: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU

LV MC MK NL PT RO SE SI SK TR

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
US20040075848A1	N/A	2003US-0630264
	July 30, 2003	
EP 1319439A1	N/A	2002EP-0027402
	December 9, 2002	
DE 10161550A1	N/A	2001DE-1061550
	December 14, 2001	

INT-CL (IPC): B05B005/025, B05B005/16 , B05B012/14 , G01B011/14

ABSTRACTED-PUB-NO: EP 1319439A

BASIC-ABSTRACT:

NOVELTY - Magneto-optical sensor arrangement for detecting the position or movement of a scraper or other such moving body (12) beneath a high voltage component in a coating plant. Accordingly the polarization direction of linearly polarized light waves is changed due to the magnetic field sensed by a sensor element (15) that detects the signals of a magnetic signal element (14) attached to the moving body by use of the Faraday or Kerr effects. The resultant light signals are transmitted over an optical fiber (16) to a remote electronic analysis device.

USE - Detection of the position of components being

used in a coating plant,
e.g. a motor vehicle bodywork painting plant.

ADVANTAGE - Use of a magneto-optical sensing system ensures that electronics
can be positioned well away from the high electric fields caused by the high
electrostatic charging of the bodywork components.

DESCRIPTION OF DRAWING(S) - Figure shows a schematic view of the inventive
arrangement for detecting the movement or position of a bodywork component.

moving body 12

magnetic signaler 14

sensor 15

optical fiber 16

CHOSEN-DRAWING: Dwg.1/4

DERWENT-CLASS: P42 S01 S02 X25

EPI-CODES: S01-D01D5; S02-A03B4; X25-A03E2;